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GEOGRAPHIC MEMORANDUM

ROAD AND RAIL BRIDGES ALONG THE NORTH KOREAN BORDER

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CENTRAL INTELLIGENCE AGENCY
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C/1-31

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ROAD AND RAIL BRIDGES ABOVE THE NORTH CHINA BORDER
(according to information available as of 31 January 1953)

Explanatory Notes: Areas are listed from west to east (upstream to downstream). All north-south distances are given in feet (ft) unless otherwise indicated. All measurements are approximate.

Main River Crossings

Area	Identification	Location	Function and Status	Construction
Simuiju 36°08'N-124°24'E; 1 of the 5 bridges in area unserviceable. Provide principal rail and road connections between N Korea and S Manchuria; also provide access for An-tung region to deepwater ports at Yalu River mouth.	1. Simuiju/An-tung Old Combination Rail and Road Bridge (probably unserviceable)	Farthest downstream crossing of Yalu River; between central parts of N and S China.	Originally (1911) carried single- track railroad with 9' cantilevered decklets on either side; converted (between 1913 and 1914) to 1- or 2- lane plank-deck highway bridge with railroad on sturdy basis; 1 lane probably reconvered to railroad before 1950; heavily damaged 1950-51; unserviceable May 1956.	Built 1909-11; reinforced 1913; length 3,300'; width 30'; 12 simple steel through truss spans (6 at 299' and 6 at 205') and 1 steel swing-span (at 305'); swing-span converted to permanent span in 1935; 18' above water; 12 masonry-faced concrete piers; 2 concrete abutments.
	2. Simuiju/An-tung New Combination Rail and Road Bridge	150' upstream of Bridge 1; between central parts of the 2 cities.	Originally (1943) carried double- track railroad; 1 track converted to highway during Korean War; Simuiju side damaged 1950-51; in service May 1956 as combination rail and highway bridge.	Completed 1943; length 3,100'; width 30'; 6 suspension- supported double-warren steel through truss spans (at 299') at An-tung end and 6 double- Warren steel through truss spans (at 205') at Simuiju end; 23' above water; masonry- faced concrete piers and abutments.
	3. Simuiju/An-tung Rail Bridge; Bypass West	2 miles upstream of Bridge 2; between Hiden-tong (36°08'-124°24'E) and N An-tung.	Carries single-track railroad; serviceable July 1956.	Completed during Korean War as bypass of urban area; length est. 1,375'; 10 wooden spans; 8' above water.

S-P-1-1-1-1

Area	Identification	Location	Function and Status	Construction
	4. Ch'ungju/Ch'ungju Rail Bridge: Bypass East	1.5 miles upstream of Bridge 3, between Ch'ungju-ni (40°30'N-128°05'E) and Ch'ungju-ni-ch'ong.	Carries single-track railway; serviceable July 1954.	Completed during Korean War; to bypass of urban area; length est. 3,880'; 67 steel beam spans; 35' above water; actually 2 bridges with inter- vening island.
	5. Hiju/Ma-shi- t'ai-t'un Road Bridge	1.5 miles upstream of Bridge 3, between Ch'ungju-ni (40°30'N-128°05'E) and Ch'ungju-ni-ch'ong.	Carries 2-lane highway; serviceable October 1952.	Completed during Korean War; length est. 1,910'; width est. 24'; concrete.
Sup'ung Dam (40°30'N-128°05'E) serviceable bridges provide rail and road connections between Sup'ung power complex and S Manchuria; also provide alternate trunk route for rail traffic between W Korea and S Manchuria.	6. Ch'ongsongjin/ Ch'ang-tien-ho-k'ou Old Road Bridge (probably destroyed)	1.5 miles upstream of Sup'ung Dam; between Ch'ongsongjin (40°30'N-128°05'E) and Ch'ang-tien-ho-k'ou.	Carries 1- or 2-lane secondary highway; destroyed during Korean War (before April 1951); later status unknown.	Length est. 1,500' with overwater distance of 1,000'.
	7. Ch'ongsongjin/ Ch'ang-tien-ho-k'ou New Road Bridge	1.5 miles upstream of Bridge 6, between Ch'ongsongjin and Ch'ang-tien-ho-k'ou.	Carries 2-lane secondary highway; serviceable October 1952.	Completed during Korean War; length 1,700'; width est. 10'; concrete.
	8. Namsan-ni/ Ch'ang-tien-ho-k'ou Rail Bridge: South	0.5 miles downstream of Sup'ung Dam; between Namsan-ni (40°27'N- 128°33'E) and W/1 Manchurian village.	Carries single-track railroad; serviceable July 1954.	Probably completed during Korean War; length 2,925'; wooden; wood crib piers.

S-2-0-n-2-2

Agency	Classification	Location	Function and Status	Construction
	9. Ch'ung-tien-ch'ang Rail Bridge (North)	1.0 miles upstream of Bridge 8 and 6.7 miles downstream of Su'ung Dam; between Korean and Manchurian shore.	Carries single-track railroad; serviceable July 1954.	Length 1,994'; 25 steel deck plate girder spans (24 at 65' and 1 at 58'); all 53' above high water; 2 steel through truss spans (at 188'), 28' above high water.
	10. U/I Road Bridge (unconfirmed)	Vicinity of Su'ung Reservoir.	Submerged highway bridge reported March 1955.	No details.
11. Mamp'o/Chi-an Rail Bridge (unconfirmed) Serviceable rail bridge links N Korea with S Manchuria; also provides alternate trunk route for through rail traffic between N Korea and S Manchuria.	11. Mamp'o/Chi-an Rail Bridge (probably destroyed)	1.2 miles downstream of Bridge 12; between N Mamp'o and Manchurian shore.	Carried single-track railroad; destroyed during Korean War (before spring 1951); later status not clear.	Completed 1941; length est. 1,400' with overwater distance of 950'; probably steel.
	12. Mamp'o/Chi-an Rail Bridge	N of Mamp'o; between N Mamp'o and Hsia-yang-yu-t'ou.	Carries single-track railroad; serviceable July 1954; existence confirmed April 1956.	Completed 1930; length 1,925'; 17 steel deck plate girder spans (at 80' x 13') and 3 steel through truss girder spans of Type "G" or Newton-Trager Type (at 150' x 18'), all 16' above water; 19 masonry piers and 2 abutments; earth fill approaches 1,500' in length.
	13. Mamp'o/Chi-an Rail Bridge (unconfirmed)	Vicinity of Mamp'o	Single-track railroad bridge; source of information July 1954 esp.	No details.
	14. Mamp'o/Chi-an Rail Bridge (unconfirmed)	Vicinity of Mamp'o	Single-track railroad bridge; source of information July 1954 esp.	No details.

S-E-C-R-E-T

Area	Identification	Location	Function and Status	Construction
Samgang-dong (41°22'N-126°30'E) This bridge links well-populated valley regions on opposite sides of river.	15. Samgang-dong/Hu-lu-t'ao Rail Bridge (probable)	S of Samgang-dong on Yalu River meander; between Samgang-dong and Hu-lu-t'ao.	Carries single-track branch railroad (from Mump'o) to nearby Chinese terminus; source of information 1954 map.	Completed before 1950 to serve Yalu dam project; actually 2 bridges separated by sandy island with est. width 1,100'; combined lengths est. 600'.
Chunggangjin (41°08'N-125°52'E) Serviceable road bridge connects Korean towns of upper Yalu basin with E Manchurian railhead at Lin-chiang.	16. Chunggangjin/Lin-chiang Road Bridge	1.5 miles NE of Chunggangjin; between NE Chunggangjin and Lin-chiang.	Carries 2-lane primary highway; existence confirmed November 1952; appeared on April 1953 map.	Completed c. 1938; length est. 1,470'; width est. 20'; concrete; est. 24 concrete piers.
Lin'gap'a-jin (41°25'N-127°46'E) (No evidence of any bridges in vicinity.)				
Hyesan (41°24'N-128°10'E) 2 serviceable road bridges link relatively isolated Manchurian region with NE Korean railhead at Hyesan.	17. Hyesan Central/Ch'ang-pai Road Bridge (probably serviceable)	N of Hyesan; between N Hyesan and W Ch'ang-pai.	Carries primary highway; severely damaged fall 1950; reported serviceable November 1955.	Length est. 350' with overwater distance of 200'; probably wooden.
	18. Hyesan East/Ch'ang-pai Road Bridge (probably serviceable)	1/2 mile upstream of Bridge 17; between E Hyesan and S Ch'ang-pai.	Carries highway; severely damaged fall 1950; reported serviceable November 1955.	Length est. 300' with overwater distance of 160'; probably wooden.

S-2-2-2-2

Famen River Crossings: China

Area	Identification	Location	Function and Status	Construction
Upper Famen Region (42°12'N-129°13'E) Inferred bridges serve local roads in relatively isolated valley region immediately downstream of confluence of Famen with 2 major tributaries.	19a. Hsueh-tung	42°02'N-129°13'E	Local road bridge; appeared on 1951 map.	Length est. 150'; probably wooden.
	b. Sui-dong	42°02'N-129°19'E	2 local road bridges; appeared on 1951 map.	do
	c. Jui-dong	42°02'N-129°29'E	do	do
	d. Sui-shi-tong	42°01'N-129°29'E	do	do
	e. Hsueh-tung	42°01'N-129°25'E	do	do
	f. Seng-shi-dong	42°05'N-129°27'E	Local road bridge; appeared on 1951 map.	do
	g. (W of) Seng-shi-dong	42°05'N-129°00'E	do	do
Lower Famen Region (42°14'N-129°13'E) [No evidence of any bridges in vicinity.]				
Hoeryong (42°25'N-129°45'E) Serviceable road bridge connects principal highway of NS Korea with Yen-chi region of SS Manchuria; also links Yen-chi region with NE Korean Railroad at Hoeryong.	20. Hoeryong/ Hung-ching-tung Road Bridge	1.3 miles NW of Hoeryong; between N Hoeryong and Hung-ching-tung.	Carries primary highway; serviceable July 1954.	Length 368'; deck plate girder spans; concrete surface.
	21. Hoeryong Road Bridge (destroyed)	2 miles downstream of Bridge 20.	Carried alternate road crossing; destroyed during Korean war.	Probably wooden.

Area	Identification	Location	Function and Status	Construction
22. Wuyang (25°N-129°07'E) Serviceable rail bridge provides major link between NE Korean rail and E Manchurian system in Wuyang region; less significant as road bridge.	22. Sangsambong/K'ai-shan-t'un Combination Rail and Road Bridge	Between Sangsambong and K'ai-shan-t'un.	9'-wide road (on downstream side); confirmed October 1955.	Completed 1945; length 1,500'; 21 steel deck plate girder spans (at 70'); 13 reinforced concrete piers (at 25' x 5'10' / 25' above mean water level); piers on rock foundation 15' below mean water level; 2 reinforced concrete abutments.
23. Wuyang (25°N-129°05'E) Serviceable bridges are probably most important rail and road connections between NE Korea and Yan-chi region.	23. Sangsambong/K'ai-shan-t'un Road Bridge (probably destroyed)	3,000' downstream of Bridge 22; between W Sangsambong and N K'ai-shan-t'un.	Carried main road; probably destroyed during Korean War (before July 1951); not repaired as of October 1955.	Length est. 500' with overwater distance of 350'.
	24. Wuyang/T'u-men* Combination Rail and Road Bridge	Between Wuyang and T'u-men.	Carries single-track railroad and 9'-wide footwalk (on downstream side); condition good 1945; footwalk probably utilized as highway during WW II; existence confirmed October 1955.	Completed c. 1934; length 1,500'; 21 steel deck plate girder spans (at 66'); concrete piers and abutments; actually 2 parallel bridges on common piers.
	25. Wuyang/T'u-men* Road Bridge	2,000' downstream of Bridge 24; between Wuyang and T'u-men.	Carries 2-lane primary highway; condition good 1945; serviceable April 1955.	Completed before 1945; length 1,600'; width 25'; reinforced concrete; 11' above water; reinforced concrete piers at 33' intervals (at 11' height); elliptical reinforced concrete pier bases (at 3' height); reinforced concrete bridge heads; iron bar bridge frames; wooden board bridge floor; concrete abutments (at 33' width, 10' height, 3' thickness).

S-E-C-R-E-T

Area	Identification	Location	Function and Status	Construction
Onsong 36°53'N-129°39'E) serviceable road bridge connects principal highway of NE Korea with Man-ch'un region	26. Onsong/ Shang-shui-ch'uan-tzu Road Bridge	1.2 miles NE of Onsong; between Man-ch'ung and Shang-shui-ch'uan-tzu.	Carries primary highway; probably single-lane; appeared on 1954 map.	Length est. 1,500' with overwater distance of 1,000'.
Man-ch'un 36°53'N-130°14'E) serviceable bridges provide principal rail and road connections between NE Korea and Man-ch'un region.	27. Man-ch'un/ Shang-shui-ch'uan-tzu Road Bridge	between Man-ch'un and Shang-shui-ch'uan-tzu.	Carries 2-lane highway; confirmed April 1953; appeared on 1954 map.	Completed 1927; length est. 2,000'; width est. 20'; 14 steel deck plate girder spans; solid masonry piers.
Man-ch'un 36°53'N-130°12'E) serviceable bridge links road net of NE Korea to Man-ch'un region.	28. Man-ch'un/ Shang-shui-ch'uan-tzu Rail Bridge	850' downstream of Bridge 27; between Man-ch'un and Shang-shui-ch'uan-tzu.	Carries single-track railroad plus narrow catwalk on either side; confirmed April 1953; appeared on 1954 map.	Completed 1935; length est. 2,000' with overwater distance of 500'.
Man-ch'un 36°53'N-130°12'E) serviceable bridge links road net of NE Korea to Man-ch'un region.	29. Kyongwon/Yudado Road Bridge	1.6 miles SE of Kyongwon Station; between Kyongwon Station and Yudado.	Carries highway; probably impassable at high water; existence confirmed June 1952; appeared on 1954 map.	Completed by USSR in 1948; length 2,625'; steel.
Man-ch'un 36°53'N-130°30'E) serviceable bridge links Man-ch'un industrial area with Man-ch'un.	30. Kyongwon/Yudado Road Bridge: Detour (unconfirmed)	Vicinity of Bridge 29.	Carries detour for Bridge 29; probably impassable at high water; reported June 1952.	Length 604'; wooden.
Man-ch'un 36°53'N-130°30'E) serviceable bridge links Man-ch'un industrial area with Man-ch'un.	31. Kyongwon/ Pa-ku-t'un Road Bridge	1 mile SE of Kyongwon; between Kyongwon and Pa-ku-t'un.	Carries highway; appeared on 1954 map.	Length est. 1,500' with overwater distance of 1,200' possibly concrete.

S-E-C-R-E-T

S-E-C-R-E-T

Tumen River Crossings: DESR

Area	Identification	Location	Function and Status	Construction
Yonghyon-dong 42°24' N-130°38' E) Serviceable bridge provides daily direct rail connection between NK and DESR.	32. Yonghyon-dong/ Magornaya High-level Rail Bridge	4,000' E of Yonghyon-dong; between Yonghyon-dong and Magornaya.	Carries single-track railroad; probably of broad-gauge (5'0"); 3'-wide wooden footwalk on either side; serviceable November 1956.	Probably completed during Korean War (before November 1951); length est. 2,300'; width est. 23'; steel; 28 spans; concrete piers.
	33. Yonghyon-dong/ Magornaya Low-level Railroad Bridge (destroyed)	700' downstream of Bridge 32; between Yonghyon-dong and Magornaya.	Carried single-track railroad; gauge unknown; destroyed or abandoned as unserviceable during Korean War; dismantled by April 1953 except for approaches.	Probably built 1946-50; low-level bridge.
	34. Yonghyon-dong/ Magornaya Road Bridge (destroyed)	1,600' downstream of Bridge 32.	Carried road; unserviceable November 1951; dismantled 1952.	Probably built 1946-48; low-level bridge.

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